

WHAT IS CLAIMED IS:

1. A single subscriber multiple set top boxes linkage device comprising:

5 a real time video and audio compressor for providing a digitized payment TV signal;

a linkage control unit responsive for pairing and controlling set top boxes;

10 a subscriber management unit for providing subscriber pairing signals to the linkage control unit so as to output a pairing digital signal;

a multiplexer being connected to the real time video and audio compressor and the linkage control unit for receiving the digital signal and then mixing the received digital signal;

15 a scrambler for scrambling the digital signal received from the multiplexer and then using a modulator to modulate and up-convert the digital signal so that the signal is transferred to a photoreceiver and a trunk amplifier; and

20 a plurality of distributors being connected to the trunk amplifier for transferring the digital signal to at least two set top boxes of a subscriber for pairing and classifying the set top boxes into a master and a slave.

25 2. The single subscriber multiple set top boxes linkage

device as claimed in claim 1, wherein the subscriber pairing signal from the subscriber management unit comprises a master series number and a slave series number.

5 3. The single subscriber multiple set top boxes linkage device as claimed in claim 1, wherein the set top box set as a master is added with a time code based on the control signal of the linkage control unit and then transfers a linkage control signal so
10 that after the set top box set as a slave receives the linkage control signal, the signal will be contrasted with the pairing signal initially set for assuring whether the pairing of the slave and master is correct.

15 4. The single subscriber multiple set top boxes linkage device as claimed in claim 1, wherein the linkage control signal includes a master series number, at least one slave series number, time codes, random codes, etc. and it is added with a scrambling
20 function.

5. The single subscriber multiple set top boxes linkage device as claimed in claim 1, wherein if the slave is moved to other subscriber, the signal passes through more distributors so that the signal is decayed
25 dramatically and thus the slave can not work.

6. The single subscriber multiple set top boxes linkage device as claimed in claim 1, wherein the linkage control signal uses a master series number and time

code for propagating clock signal to perform a control of time division and multiplexing so as to separate the interference of the master signals of different subscribers.

- 5 7. A linkage control method using a single subscriber multiple set top boxes linkage mechanism, the method comprising the steps of pairing and asserting of set top box; in pairing, a head end outputting a pairing signal which is transferred by a cable TV network module, and then is transferred to at least two slaves of a subscriber by distributors for setting the set top boxes as a master and a slave; the installer assuring whether the pairing is successful; in the set top boxes, the master being added with a timing code responsive to a control signal of a head end and then sending out a linkage control signal; after at least one slave receiving the linkage control signal, the linkage control signal being contrasted with the pairing signal for assuring whether of the pairing of the slave and master are successful, and the slave contrasting the timing code from the head end and the linkage control signal received; if it is correct, then the pairing is assured.
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- 20
- 25 8. The method as claimed in claim 7, wherein the head end is formed by a subscriber management unit and a linkage control unit.
9. The method as claimed in claim 7, wherein the subscriber pairing signal outputted from the head

end includes a master series number and a slave series number.

10. The method as claimed in claim 7 wherein the linkage control signal includes a master series number, at least one slave series number, time codes, random codes, etc. and it is added with a scrambling function.

11. The method as claimed in claim 7, wherein if the slave is moved to other subscriber, the signal passes through more distributors so that the signal is decayed dramatically and thus the slave can not work.

12. The method as claimed in claim 7, wherein the linkage control signal uses a master series number and time code for propagating clock signal to perform a control of time division and multiplexing so as to separate the interference of the master signals of different subscribers.

13. A set top box comprising:

a tuner for tuning and receiving a digital signal of a cable TV;

a demodulator for demodulating the digital signal of the cable TV;

a single chip set top box connected to the demodulator for restoring and outputting the demodulated digital signal;

a memory connected to the single chip set top box for storing data;

an RF modulating module serially connected to the single chip set top box for receiving a control signal and emitting a linkage control signal; and

a bypass capacitor connected to the RF modulating module and the tuner for isolating a DC level so that AC signal passed through.

14.A linkage control method of a direct propagating satellite available in the set top boxes of the direct propagating satellite by using a single subscriber multiple set top boxes linkage mechanism, the method comprising the steps of pairing of a head end and assertion of satellite set top boxes; in pairing, a head end outputting a pairing signal which is transferred by a satellite antenna, and then is transferred to at least two slaves of a subscriber by a down converter for setting the set top boxes as a master and a slave; in the set top boxes, the master being added with a timing code responsive to a control signal of a head end and then sending out a linkage control signal; after at least one slave receiving the linkage control signal, the linkage control signal being contrasted with the pairing signal for assuring whether of the pairing of the slave and master are successful, and the slave contrasting the timing code from the head end and the linkage control signal received; if it is correct,

then the pairing is assured.

15. The method as claimed in claim 14, wherein an input
end of the satellite set top box is installed with a RF
receiving module and the output end thereof is
5 installed with a RF modulating module for receiving
and emitting signals.

16. The method as claimed in claim 14, wherein the
subscriber pairing signal outputted from the head
end includes a master series number and a slave
series number.
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17. The method as claimed in claim 14, wherein the
linkage control signal includes a master series
number, at least one slave series number, time codes,
random codes, etc. and it is added with a scrambling
function.
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18. The method as claimed in claim 14, wherein the
linkage control signal uses a master series number
and time code for propagating clock signal to
perform a control of time division and multiplexing
so as to separate the interference of the master
signals of different subscribers.
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